WHAT IS CLAIMED IS:

1. A data processing system comprising:

a display device for displaying at least one display screen element;

an input device for applying a variable tactile sensation to a user and generating input data based upon input from a user; and

a processing device for generating display screen data comprising data for each display screen element and a tactile sensation control pattern, the processing device sending the display screen data to the display device and controlling the tactile sensation applied by the input device in accordance with the tactile sensation control pattern;

wherein the processing device receives input data from the input device, calculates a relationship between the input data and the tactile sensation in accordance with the arrangement of at least one display element on the display screen at the time that the display screen data is sent to the display device and stores the calculated relationship as a tactile sensation control pattern, so that the tactile sensation applied to the user is based upon the input data.

2. A data processing system according to Claim 1,

wherein the processing unit connects tactile sensation patterns in accordance with the arrangement of the display elements on the display screen at the time that the display screen data is sent to the display device, and stores the connected tactile sensation patterns as the tactile sensation control pattern, the tactile sensation patterns indicate the relationship between the input data and the tactile sensation and are previously determined according to the types of the display elements.

3. A data processing system according to Claim 2, wherein the display elements comprise display objects for accepting an operation selected by the user and a space between the display objects, the space being a portion on the display screen where the display objects are not present.

4. A data processing system according to Claim 2, wherein the input device comprises an operation unit rotatable by the user and an actuator for applying a force to the operation unit corresponding to the direction of rotation of the operation unit,

the tactile sensation control pattern indicates a relationship between the rotational angle of the operation unit and the force applied to the operation unit, and

the processing device controls the force applied by the

actuator in accordance with the tactile sensation control pattern.

5. A data processing system according to Claim 2, wherein the tactile sensation applied to the user is based upon the input data from the input device which indicates the positions of the display elements within a display range.

6. A data processing system according to Claim 5, wherein the input device is a pointing device for inputting coordinates on the display screen.

7. A data processing system according to Claim 5, wherein the input device is a haptic commander.

8. A method for applying a variable tactile sensation to the user through an input device, the method comprising:

generating display screen data comprising data for at least one display element;

sending the display screen data to the display device;

calculating a relationship between input data from the input device and the tactile sensation in accordance with an arrangement of at least one display element on a display screen at the time that the display screen data is sent to the display device;

storing the calculated relationship as a tactile sensation control pattern; and

controlling the tactile sensation based upon the input data from the input device, in accordance with the stored tactile sensation control pattern, whereby a variable tactile sensation is applied to the user through the input device.

9. A method for applying a variable tactile sensation to the user through an input device according to Claim 8, wherein the tactile sensation control pattern is calculated by connecting tactile sensation patterns in accordance with the arrangement of the display elements on the display screen at the time that the display screen data is sent to the display device, the tactile sensation patterns indicating the relationship between the input data and the tactile sensation and are previously determined according to the types of the display element.

10. A method for applying a variable tactile sensation to the user through an input device according to Claim 9, wherein the display elements comprise display objects for accepting an operation selected by the user and a space between the display objects, the space being a portion in the display screen where the display objects are not present.

11. A method for applying a variable tactile sensation to the user through an input device according to Claim 9, wherein the input device comprises an operation unit rotatable by the user and an actuator for applying a force to the operation unit corresponding to the direction of rotation of the operation unit, and the tactile sensation control pattern indicates a relationship between the rotational angle of the operation unit and the force applied by the actuator.

12. A method for applying a variable tactile sensation to the user through an input device according to Claim 9, wherein the tactile sensation applied to the user is based upon the input data from the input device which indicates positions of the display elements within a display range.

13. A computer program which is read and executed by a computer system comprising a display device and an input device for applying a variable tactile sensation to a user, the computer program directs the computer system to generate display screen data comprising data for at least one display element, send the display screen data to the display device,

calculate a relationship between input data from the input device and the tactile sensation in accordance with

an arrangement of at least one display element on a display screen at the time that the display screen data is sent to the display device, and store the calculated relationship as a tactile sensation control pattern, so that the tactile sensation being applied to the user is based upon the input data received from the input device, in accordance with the tactile sensation control pattern.

14. A computer program according to Claim 13, wherein the computer system connects tactile sensation patterns in accordance with the arrangement of the display elements on the display screen at the time that the display screen data is sent to the display device, and stores the connected tactile sensation patterns as the tactile sensation control pattern, the tactile sensation patterns indicate the relationship between the input data and the tactile sensation and are previously determined according to the types of the display elements.

15. A computer program according to Claim 14, wherein the display elements comprise display objects for accepting an operation selected by the user and a space between the display objects, the space being a portion on the display screen where the display objects are not present.

16. A computer program according to Claim 14, wherein the input device comprises an operation unit rotatable by the user and an actuator for applying a force to the operation unit corresponding to the direction of rotation of the operation unit,

the computer system stores the tactile sensation control pattern as a pattern which indicates a relationship between the rotational angle of the operation unit and the force applied to the operation unit and controls the force applied by the actuator in accordance with the tactile sensation control pattern.

17. A computer program according to Claim 14, wherein the tactile sensation applied to the user is based upon the input data from the input device which indicates the positions of the display elements within a display range.

18. A computer program according to Claim 17, wherein the input device is a pointing device for inputting coordinates on the display screen.

19. A storage medium which stores a computer program which is read and executed by a computer system comprising a display device and an input device for applying a variable tactile sensation to a user,

wherein the computer program directs the computer system to generate display screen data comprising data for at least one display element, send the display screen data to the display device,

calculate a relationship between input data from the input device and the tactile sensation in accordance with an arrangement of at least one display element on a display screen at the time that the display screen data is sent to the display device, store the calculated relationship as a tactile sensation control pattern, and control the tactile sensation based upon the input data from the input device, in accordance with the tactile sensation control pattern.

20. A storage medium according to Claim 19, wherein the computer system connects tactile sensation patterns in accordance with the arrangement of the display elements on the display screen at the time that the display screen data is sent to the display device, and stores the connected tactile sensation patterns as the tactile sensation control pattern, the tactile sensation patterns indicate the relationship between the input data and the tactile sensation and are previously determined according to the types of the display elements.